MADISON COUNTY AGRICULTURE NEWSLETTER

PLOWING AHEAD

AGRICULTURE & NATURAL RESOURCES

May 2024

Martin-Gatton College of Agriculture, Food and Environment

Cooperative Extension Service
Madison County
230 Duncannon Lane
Richmond, KY 40475
(859) 623-4072
Fax: (859) 624-9510
http://extension.ca.uky.edu

FARM TOUR TO ALABAMA AND LOUISIANA

This year's bus tour will be headed to Alabama and Louisiana. Dates are September 22, through September 28.

Tentative Tour stops include: Alabama Beef Cattle Farms, NASA Space Center, Shrimp farm, Swamp tour, Sugarcane farm, Louisiana Heritage Center at LSU, Antebellum Home visits and a tour of New Orleans. Cost to be determined. Sign up date will be sometime in Mid to Late June. More information to come next month!

If you have any questions, you may call tour leader Glenn Hill at 859-369-5815 or 859-398-0267.

Brandon Sears
Brandon Sears
County Extension Agent
for Agriculture & Natural Resources
859-623-4072
brandon.sears@uky.edu

UK Ag Weather Updates

Sign up for UK Ag weather updates from our UK Ag Meteorologist Matt Dixon. You will receive regular updates and explanations related to severe weather that will impact agriculture.

You can also sign up for the new UK Ag Weather Alert App. The new app in the Ag Weather Center was just released on Google Play, making it available for both iOS and Android devices! If a watch or warning is in effect, you'll get a push alert sent straight to your phone. Click the links for installation.

Apple Store:
https://apps.apple.com/us/app/weather-alert-app/id6470309148

Google Play Store:
https://play.google.com/store/apps/details?id=com.baronweather.weatheralert&pli=1

Importance of Swath Width When Harvesting Forage

Alfalfa is about 75% water when mowed. It must be dried to 13- 14% moisture for baling or 60-65% moisture for making silage. This means approximately 5.7 tons water/acre must be removed for making hay or 4.8 tons water/acre for making silage if expected dry matter yields are 2 tons/acre. The additional consideration is the first 15% of water needs to be removed quickly (for either hay or silage making) to reach 60% moisture or less to minimize starch and sugar loss due to respiration. If this initial drying process is prolonged, then unnecessary amounts of readily digestible carbohydrates can be lost, lowering the overall nutritional value of the forage.

The most important factor in drying forage is sunlight. If we make a wide swath, we are increasing the surface area of the forage that is exposed to sunlight, increasing the drying process. If hay is put immediately into a windrow, only a fraction of the sunlight is used to dry the forage and the remainder is covered by other forage or falls onto the soil. *(Excerpt of article from NAFA News March 27,2024 - National Alfalfa and Forage Alliance)*

For the full article go to: https://www.alfalfa.org/pdf/94.pdf

Table 1. Composition after ensiling of alfalfa haylage made from narrow and wide swaths.
8 trials, UW Arlington & Marshfield, 2005-2007

Factor	Wide – Narrow Swath Difference
Hours to dry to 65% moisture	-10.8
Crude Protein, %	0.5
Neutral Detergent Fiber, %	-1.0
Non-fibrous carbohydrates, %	1.7
Ash, %	-0.2
Lactic Acid, %	0.8
Acetic Acid, %	-0.2
Relative Forage Quality	11.0

Madison County Beekeepers Association

Madison County Beekeepers Association will meet Monday, June 24, at the Madison County Extension Office. (No meeting in May) For more information, call Kent, 859-623-3576 or Paul, 859-582-6172.

Plate It Up! Kentucky Proud!

Whether it's spring, summer, fall or winter, you can Plate It Up with recipes that put a new twist on your favorite Kentucky Proud foods.

Visit http://fcs-hes.ca.uky.edu/piukp-recipes to find all the Plate It Up recipes using Kentucky Proud products.

Bovine Coccidiosis - Frequently Asked Questions

Dr. Michelle Arnold, DVM – Ruminant Extension Veterinarian (UKVDL)

What is "coccidiosis"?

Coccidiosis, also known as "cocci", is a disease of calves due primarily to two species of protozoan parasite, *Eimeria bovis* and *Eimeria zurnii*. In the clinical or observable form of the disease, calves have diarrhea, often bloody, that can lead to death from damage to the intestinal tract, specifically in the lower small intestine, cecum, and colon. "Subclinical" infection without noticeable diarrhea can still cause gut damage resulting in depressed appetite, decreased feed efficiency, and poor weight gain. How "sick" animals get depends on which species of *Eimeria* is involved, the level of exposure, and any associated stressors such as weaning, transport, poor nutrition or weather extremes occurring at the time of infection. Coccidiosis can be seen in calves as early as 3 weeks of age, but it is diagnosed most frequently at stressful times such as weaning or at entry to a backgrounding operation or feedlot. Cattle generally develop immunity to disease by 1 year of age, meaning they continue to harbor and shed coccidia without the ill effects. Healthy older animals can spread the organism to younger, vulnerable stock.

How is the organism transmitted?

All bovine *Eimeria* have a "fecal-oral transmission cycle", in which the infective form of the organism (the "oocyst") is passed in the feces of infected cattle and consumed by calves in contaminated feed or water. Coccidia are "host -specific"; the *Eimeria* species that infect cattle do not infect any other species of animal and vice-versa. Calves infected for the first time shed the greatest number of the infective "oocysts" and quickly contaminate their environment. The life cycle of *Eimeria* is completed in a calf within 2-4 weeks and millions of oocysts may be produced in that time. Once the oocysts leave the calf in the feces, the oocysts "sporulate" and can survive weeks to months outside in the right conditions of moderate temperature and high moisture. Buildup is most common in areas where animals congregate or are crowded together, especially around watering and feeding facilities. However, direct exposure to sunlight and drying will kill the organism.

What does a calf with coccidiosis look like?

After a calf swallows sporulated oocysts, the organism begins a very complex reproductive cycle, both asexual and sexual, within the cells that line the calf's intestinal tract (see Figure 1 for a complete review of the life cycle). When the reproductive cycle is finished and the newly formed oocysts are mature, they break open the intestinal cells and are released into the gut and passed in the feces. The damage to the gut caused by this rupture of intestinal cells is what causes the disease symptoms. The most common sign associated with coccidiosis is diarrhea that often contains red blood, mucous and shreds of intestinal lining. Calves often strain and some calves may prolapse the rectum with excessive straining. Milder cases may have watery or soft stools, depressed appetite, rough hair coats and poor growth. The disease can range from self-limiting infection in which calves require no treatment, to severe infection and death. Some animals develop nervous signs including tremors, circling, and convulsions with normal periods between neurologic episodes. Mortality (death) in those with the nervous form is typically 80-90%. Calves that recover from severe diarrhea may have permanent scarring in the gut and never grow well. Coccidiosis should always be considered a "herd disease" rather than an individual calf problem because *Eimeria* spread quickly within a group after just a few life cycles of the parasite.

How is the disease diagnosed?

Observation of diarrhea in stressed calves, especially with red blood present, raises the suspicion of coccidiosis. Fecal samples may be collected and analyzed in the laboratory for *Eimeria* oocysts, with 500 or more oocysts per gram of feces considered important.

However, since the organism reproduces by both sexual and asexual means, severe disease can result before oocysts are detected in large numbers in the feces. Therefore, it is recommended to collect fecal samples from multiple animals in a group when attempting to confirm the diagnosis. Of note, there are at least 13 species of *Eimeria* in cattle and many are considered "nonpathogenic" and will not cause illness, so species differentiation is required. The rare form of "nervous coccidiosis" is diagnosed most often at necropsy.

Is there a treatment available?

In cattle, once the oocysts are detected in the feces of a calf with bloody diarrhea, most of the intestinal damage is already done. However, treatment can still have a beneficial effect and can slow transmission to the rest of the herd.

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Bovine Coccidiosis - Frequently Asked Questions

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All calves in a group should be treated simultaneously and moved to a cleaner environment or new pasture once the disease is recognized. Amprolium (Corid®) is licensed in cattle for therapeutic treatment when given for 5 days at 10 mg/kg body weight and can be used for prevention at a dose of 5 mg/kg of body weight for 21 days. Amprolium is a “thiamine analogue” and it is taken up by the coccidia in place of thiamine, thus interrupting several critical metabolic steps in its growth and reproduction. Corid® is available as an oral solution, a pelleted feed additive, or as a soluble powder. It is important to observe the correct dose and length of treatment because too much amprolium can result in polioencephalomalacia or “brainer” calves. Talk with your veterinarian for more information.

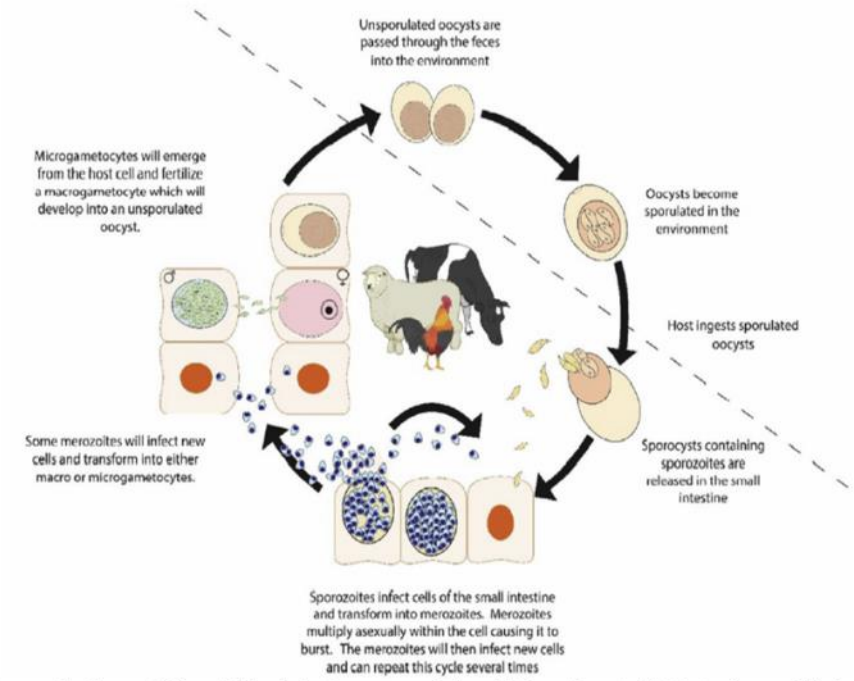


Figure 1: From "Coccidiosis in Large and Small Ruminants", Veterinary Clinics of North America, Food Animal Practice (2018), 34, p.202.

Sulfaquinoxaline administered as a 0.015% solution in water, is also approved as a treatment in cattle at 10-20 mg/kg body weight for 3-7 days. Sulfa drugs interfere with the synthesis of folic acid, an essential requirement for reproduction in the life cycle of coccidia.

Can coccidiosis be prevented?

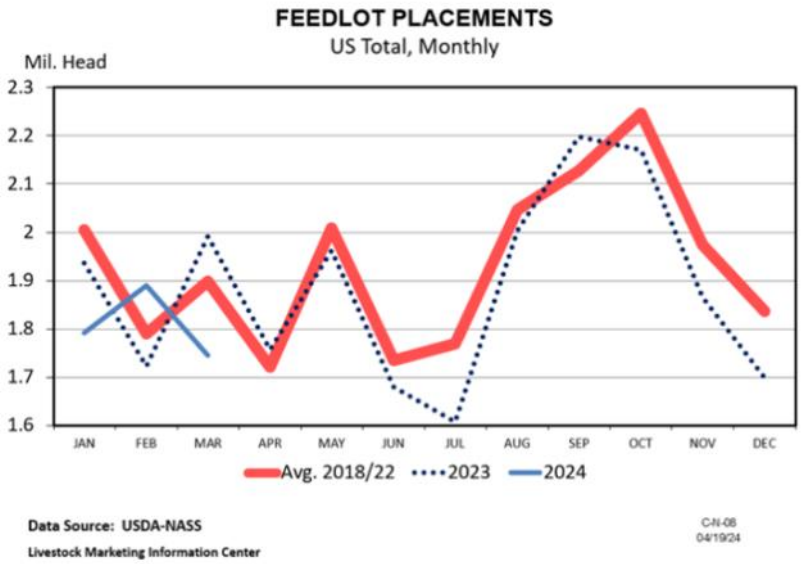
Prevention is far better than treatment since production losses and permanent gut damage in a proportion of calves is nearly guaranteed once diarrhea is observed. Effective coccidiosis control does not require complete elimination of the organism. Instead, consumption of low numbers of oocysts is beneficial because it promotes development of immunity which will protect the animal when challenged with future infections. Minimizing stress and environmental contamination while optimizing nutrition will limit the progression of coccidiosis. However, where environmental control is not adequate (for example, a crowded dry lot) and when times of elevated stress are expected such as at weaning, effective drugs are available to help prevent coccidiosis. Two types of drugs, “coccidiostatic” and “coccidiocidal”, are available. Coccidiostats inhibit the development of early life cycle stages and include amprolium (Corid®), decoquinate (Deccox®), and the sulfonamide antibiotic Sulfaquinoxaline. Coccidiocides kill the parasites at several stages of development and include the polyether ionophores known as monensin (Rumensin®) and lasalocid (Bovatec®), and the symmetric triazine class of drugs which are currently unapproved in the USA.

The most commonly used drugs to control coccidiosis are the ionophores, specifically lasalocid (Bovatec®) and monensin (Rumensin®), and the quinolone coccidiostat decoquinate (Deccox®). They are highly effective, easily administered in feed or minerals, and should be offered for at least 28 days. Lasalocid (Bovatec®) is approved for control of coccidiosis in cattle up to 800 pounds when fed at 0.45 mg/pound of body weight/head per day up to a maximum of 360 mg per head per day. Monensin (Rumensin®) is approved for prevention and control of coccidiosis in many classes of cattle, either mixed in feed at 0.14-0.42 mg monensin/pound of body weight/head per day up to a maximum of 200 mg per day or offered in free-choice products at 50-200 mg monensin per head per day. Decoquinate (Deccox®) is approved to be administered at 0.5 mg/kg of body weight per head daily for at least 28 days for prevention of coccidiosis during periods of exposure to coccidia or when cattle are considered at high risk. As mentioned previously, amprolium (Corid®) can be used for prevention at a dose of 5 mg/kg of body weight/head daily for 21 days. As always, your veterinarian is the best resource for diagnosis of all medical conditions, treatment, and prevention recommendations.

A Bullish April Cattle on Feed Report

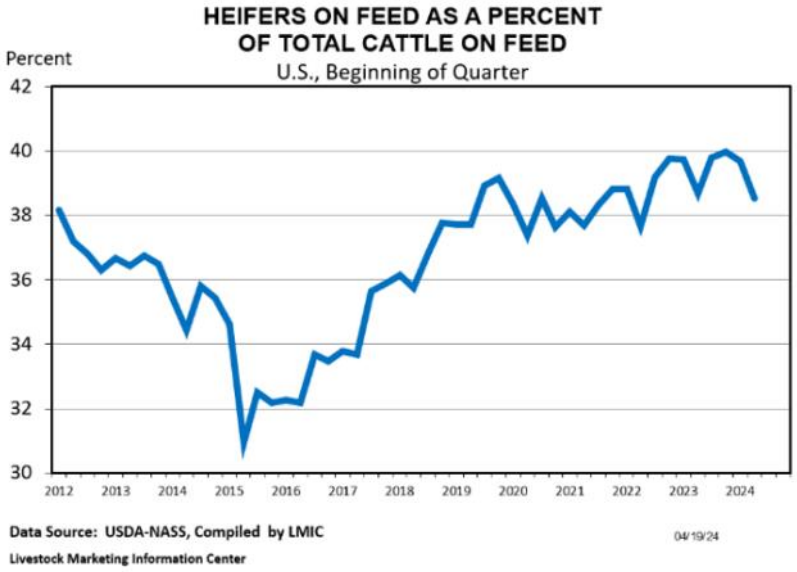
By Dr. Kenny Burdine, University of Kentucky

Cattle on feed reports have not been especially kind to the cattle complex in recent months. Despite fewer cows and a smaller calf crop, on-feed inventories have been running above year-ago levels. Over the last several months, feeder cattle placements have been higher than most analysts would have expected. Weather and high prices likely encouraged some early placements in some regions going back to fall. At the same time, marketings have seemed to be relatively slow. I suspect this has been partly due to expensive feeder cattle and cheaper feed. This combination tends to encourage adding more weight to current feedlot inventory and rising harvest weights seem to be supporting this hypothesis.



This brings us to the April Cattle on Feed report, which came at the end of a week when cattle markets had gained back a portion of what had been lost since late March. The number that stood out the most was the estimate of March placements, which came in 246,000 head lower than March of 2023. I don't want to read too much into a single report, but this 12% decrease is significant and came in below all the pre-report estimates I had seen. Sometimes it is beneficial to take a bit longer view on something like this. If I look at the entire first quarter, placements were down 4% for 2024. This is a number that seems to make sense given feeder cattle supplies. It's also worth noting that the first quarter of 2024 included February 29th due to 2024 being a leap year.

The April report is also one of the quarterly reports where an estimate is made of the on-feed breakdown between steers and heifers. This can provide some indication of heifer retention for breeding purposes and will be especially important this year as we may not have the July Cattle Inventory report. As of April 1, heifers and heifer calves accounted for 38.5% of on-feed inventory. For comparison, heifers accounted for 40% of on-feed inventory in October of last year and 39.7% in January of this year. The fact that the share of heifers on feed is decreasing does bear watching in the coming months, but still does not point to significant heifer retention. If one goes back and examines the last expansionary period, the heifer percentage was below 35% for ten straight quarters – from the first quarter of 2015 to the second quarter of 2017.



Put simply, the most recent cattle on feed report was the most bullish that we have gotten in a good while. Even though total on feed numbers remain above 2023 levels, they were still below trade expectations. Sharply lower placements seemed to confirm that feeder cattle supplies are very tight. And there is still no evidence that large numbers of heifers are being held for replacement purposes. While the volatility in the cattle markets is likely to stay, the supply picture remains encouraging for feeder cattle markets.

Check Out the Farmers' Market!

Madison County Farmers' Market

The Madison County Farmers' Market is open Saturdays from 9:00 am to 1:00 pm White Oak Pond Christian Church located at 1238 Barnes Mill Road in Richmond.
https://www.facebook.com/MadisonKYFarmersMarket

Berea Farmers' Market

The market is open on Saturdays from 9:00 am to 1:00 pm at the Chestnut Street Pavilion, located at 635 Chestnut Street.
https://www.facebook.com/bereafarmersmarket

Soil Testing Is Free!

Madison County Cooperative Extension Service continues to offer free soil testing year round. We need at least two cups of dry soil to run a test. If you have question on how to collect your samples, call 859-623-4072. Agricultural and horticultural samples **from Madison County residents** will be accepted. **There is a 10 sample limit per farm or home per calendar year!** (Please note: Commercial lawn care companies submitting samples do not qualify for free soil testing; call 859-623-4072 for pricing.) We would like to thank our sponsors:

Madison County Extension District Board and Madison County Conservation District

Forage Timely Tips: May

- Start hay harvests for quality forage. Consider making baleage to facilitate timely cutting.
- Seed warm season grasses for supplemental forage once soil temperature is at 60 F.
- Clip, graze, or make hay to prevent seedhead formation.
- Rotate pastures as based in height rather than time: Tall Fescue 8" to 10" / 3" to 4"; Orchardgrass 8" to 10" / 4" - 5";
- Bermuda - 4" - 6" / 1" -2"; Sorghum Sudangrass 20" to 24" / 8" to 12"
- Consider temporary electric fencing to subdivide larger pastures and exclude areas for mechanical
- harvesting.
- Scout pastures for summer annual weeds and control when small.